

REMARKS

Claims 1-15 are pending in the present Application. Consequently, claims 1-15 remain pending in the present Application.

This application is under Final Rejection. Applicant has presented arguments hereinbelow that Applicant believes should render the claims allowable. In the event, however, that the Examiner is not persuaded by Applicant's arguments, Applicant respectfully requests that the Examiner enter the Amendment to clarify issues upon appeal.

In the above-identified Office Action, the Examiner rejected claims 1-15 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,088,033 ("Binkley") in view of U.S. Patent No. 5,812,668 ("Weber"). In response to Applicant's arguments the Examiner stated:

the applicant argues that neither Binkley nor Weber discloses a method, system or computer readable medium in which the emulation object and application interface directly with the operating system of the development system. However, the combination of Binkley and Weber discloses this feature. Specifically, in Binkley, Col. 59, lines 31-38 and lines 54-61, it is disclosed that the emulation module resides with the emulation processor and that the host system or development system's environment comprises device emulating means for directly interfacing with the target system I/O operation or the application. In Col. 59, lines 50-53, Binkley discloses that the host/development system's environment comprises means for determining a current emulated state of communication means, meaning the host/development system has direct contact with emulation means/modules.

Applicant respectfully disagrees with the Examiner's rejection. Claim 1 recites:

1. A method for providing a point of sale environment for developing an application on a development system independently of a point of sale system, the application for use with point of sale equipment having a device, the application capable of utilizing the device when the application is executed on the point of sale equipment, the application interfacing with an operating system on the development system, the method comprising the steps of:

- (a) providing an emulation module interfacing directly with the operating system and corresponding to the device;
- (b) ensuring that the application will utilize the emulation module when the application is executed on the development system; and
- (c) executing the application on the development system independently of the point of sale system, wherein the emulation module and the

application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment;
wherein the emulation module and the application both interface directly with the operating system of the development system; and
wherein the device is specialized for the point of sale equipment.

Independent claim 7 recites:

7. A method for testing an application on a development system having an operating system, the application for use with point of sale equipment having a device, the application interfacing with the operating system and being capable of utilizing the device when the application is executed on the point of sale equipment, the method comprising the steps of:

- (a) providing an emulation object interfacing directly with the operating system and corresponding to the device;
- (b) ensuring that the application will utilize the emulation object when the application is executed on the development system;
- (c) executing the application on the development system;
- (d) ensuring that the application adequately utilizes the emulation object; and

(e) executing the application on the point of sale equipment;
wherein when the application is executed on the development system, the emulation module and the application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment;

wherein the emulation module and the application both interface directly with the operating system of the development system; and
wherein the device is specialized for the point of sale equipment.

Independent claim 8 recites:

8. A system, including an operating system, for developing an application for use with point of sale equipment having a device, the application interfacing with the operating system and capable of utilizing the device when the application is executed on the point of sale equipment, the system comprising:

an emulation module interfacing directly with the operating system and corresponding to the device; and

means for ensuring that the application will utilize the emulation module when the application is executed on the development system;

wherein when the application is executed on the system, the emulation module and the application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment;

wherein the emulation module and the application both interface directly with the operating system of the development system; and

wherein the device is specialized for the point of sale equipment.

Independent claim 14 recites:

14. computer readable medium containing at least one program for testing an application on a development system having an operating system, the application for use with point of sale equipment having a device, the application interfacing with the operating system and being capable of utilizing the device when the application is executed on the point of sale equipment, the program containing instructions for:

providing an emulation module interfacing directly with the operating system and corresponding to the device;

wherein the application is capable of utilizing the emulation module in lieu of the device when the application is executed on the development system and;

wherein when the application is executed on the development system, the emulation module and the application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment;

wherein the emulation module and the application both interface directly with the operating system of the development system; and

wherein the device is specialized for the point of sale equipment.

Independent claim 15 recites:

15. A computer readable medium containing at least one program for facilitating development of an application on a development system having an operating system, the application for use with point of sale equipment having a device, the application interfacing with the operating system and being capable of utilizing the device when the application is executed on the point of sale equipment, the program containing instructions for:

emulating the interaction between the application and the device using an emulation module interfacing directly with the operating system;

allowing a developer to provide input; and

providing the input to the application in a form expected from the device;

wherein the emulation module and the application both interface directly with the operating system of the development system; and

wherein the device is specialized for the point of sale equipment.

Thus, independent claims 1, 7, 8, 14, and 15 recite that both the emulation modules and the application interface directly with the operating system of the development system.

Consequently, the emulation modules would not replace portions of the application. Because the emulation objects are coupled to the operating system, rather than replacing portions of the

application, the method and system in accordance with the present invention can give the developer a more accurate indication of the behavior of the application. Specification, page 11, lines 9-14 and page 14, lines 8-11. Furthermore, because the application and emulation module interface directly with the operating system, the emulation need not occur over hardware interfaces of the development system. As a result, the testing and development of the application is improved.

Applicant respectfully disagrees with the Examiner's conclusion that Binkley in view of Weber, and more specifically the cited portions of Binkley, teach or suggest directly coupling the application and the emulation modules with the operating system of the development environment. As described previously, the system of Binkley uses a host processor in conjunction with a separate "emulating processor" that emulates the functions of a target system. Binkley, col. 1, lines 60-62; col. 2, lines 25-35; and Abstract, lines 1-7. Consequently, the processor of the host (or development) system can continue normal operation during testing of applications for the target system. Ibid. The emulating processor thus functions as though it were the central processor of the target system being emulated. Binkley, col. 6, lines 39-52. See also, Fig. 1 items 12, 14, 16, and 18 as well as Fig. 2. Stated differently, the host system continues normal operation, while the emulating processor runs as if it were the target system. The application, or sequence of instructions, being developed for the target system would, therefore, presumably run on the emulating processor. In addition, Applicant respectfully submits that the emulating processor would run an operating system analogous to the operating system found on the actual point of sale equipment. Consequently, in contrast to the system, method and computer-readable medium recited in claims 1, 7, 8, 14, and 15, the application

would interface with the operating system of the emulating processor, not directly with the operating system of the host/development system.

The portions of Binkley cited in the Examiner's response to Applicant's arguments do not teach or suggest interfacing the emulation modules and the application directly with the operating system of the development system. The portions of Binkley cited in the Examiner's response to Applicant's arguments describe the emulating processor discussed above and "environment means". Binkley, col. 59, lines 31-38 and 50-61. As indicated above, the emulating processor is separate from the host processor. The environment means are *part of* the host system and are "connected for providing an environment for the emulating processor so that the emulating processor continues to execute the sequence of target system instructions and for providing an environment for the host processor so that the host processor executes the host system instructions . . ." Binkley, col. 59, lines 39-45. The portion of Binkley cited by the Examiner further indicate that the environment means include means for provide I/O device data to emulate I/O from the target system. Binkley, col. 59, lines 50-61.

Thus, the environment means of the cited portions of Binkley are part of the host system, apparently mimic devices that would be coupled to the target system, and aid in allowing the host and emulation processors to run independently. Consequently, it could be argued that part of the environment means (e.g. the device emulating means and device data) of Binkley correspond to the recited emulation modules. The host processor, which presumably runs its own operating system, also provides the emulated environment including mimicking devices of the target system. Binkley, col. 6, line 66-col. 7, line 1. Although the environment means are part of the host system, there is no indication in the cited portions of Binkley that the portions of the environment means used in mimicking I/O devices interface directly with the operating system of

the host system. Instead, they are merely described as part of the environment means, which are part of the host system. Stated differently, these portions of the environment means are merely part of the host system. Thus, the cited portions of Binkley fail to teach or suggest directly interfacing the emulation modules with operating system of the development system.

Even if the portion of the environment means used in mimicking I/O for the target system are argued to interface directly with the host's operating system (to which Applicant does not agree), the application for the target system is run on the emulating processor. Thus, there is no indication in the cited portions of Binkley that the application interfaces directly with the operating system of the host or development system. Applicant can thus find no indication in the cited portions of Binkley that **both** an analog of the emulation module and an analog of the application interface directly with the operating system of the host or development system. Consequently, the cited portions of Binkley fail to teach or suggest a method, system or computer-readable medium in which both the application and emulation modules interface directly with the operating system of the development system.

Furthermore, the host processor apparently provides an emulated environment for the emulating processor using hardware interfaces of the host system. Binkley, col. 7, lines 1-4 and Figs. 1-2. In other words, the host system provides inputs and accepts outputs over hardware interfaces to mimic devices that would normally be connected to the system being emulated. Binkley, col. 7, lines 17-62; col. 8, lines 5-30; and Fig. 3. Consequently, to the extent that Binkley teaches that the emulation occurs over the hardware interfaces, Binkley teaches away from interfacing both the emulation modules and application directly with the operating system of the host system. Consequently, Binkley does not teach or suggest a method, system or

computer-readable medium in which the emulation modules are interfaced directly to an operating system which interfaces with the application being developed.

Weber fails to remedy the defects of Binkley. Weber describes a technology for use with a point of sale system. Consequently, no separate development system having an operating system is described in Weber. Weber, therefore, also fails to teach or suggest having emulation modules and the application being developed both interfacing directly with the operating system of the development system.

Because neither Binkley nor Weber teach or suggest interfacing emulation modules and the application being developed directly with an operating system of the development system, any combination of Binkley and Weber would fail to teach this feature. Consequently, Binkley in view of Weber also fails to teach or suggest the methods, system and computer readable media recited in claims 1, 7, 8, 14, and 15. Accordingly, Applicant respectfully submits that claim 1, 7, 8, 14 and 15 are allowable over the cited references.

Claims 2-6 depend on independent claim 1. Claims 9-13 depend on independent claim 8. Consequently, the arguments herein apply with full force to claims 2-6 and 9-13. Accordingly, Applicant respectfully submits that claims 2-6 and 9-13 are also allowable over the cited references.

Accordingly, for the above-mentioned reasons, Applicant respectfully submits that the claims are allowable over the cited reference. Consequently, Applicant respectfully requests reconsideration and allowance of the claims as currently presented.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

SAWYER LAW GROUP LLP

January 6, 2004

A handwritten signature in cursive script, appearing to read 'Michele L', is written over a horizontal line.

Michele Liu

Attorney for Applicant(s)

Reg. No. 44,875

(650) 493-4540